DOCUMENT RESUME

ED 059 966 SP 005 557

AUTHOR Olsen, Henry D.
TITLE Changing Classroom Questioning Practices of Prospective Elementary School Social Studies Teachers.
INSTITUTION Ohio Univ., Athens. Coll. of Education.
PUB DATE Apr 72
NOTE 11p.; Paper presented at the annual meeting of the American Educational Research Association, Chicago, April 3-7, 1972

EDRS PRICE MF-$0.65 HC-$3.29
DESCRIPTORS *Cognitive Processes; *Educational Improvement; *Inquiry Training; *Questioning Techniques; *Teaching Techniques

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ED 059966

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CHANGING CLASSROOM QUESTIONING PRACTICES OF PROSPECTIVE ELEMENTARY SCHOOL SOCIAL STUDIES TEACHERS

Henry D. Olsen
Assistant Professor of Education
Ohio University
Athens, Ohio

Paper presented at the Special Interest Groups - Social Studies Education,
the American Educational Research Association

April 3-7, 1972
Chicago, Illinois

SP005557

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Henry D. Olsen
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These ten students, and a control group of twenty, also juniors enrolled in the same social studies methods course, were observed during a thirty minute social studies lesson to second and third graders.

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Henry D. Olsen
Department of Elementary Education, Ohio University

INTRODUCTION

It is generally accepted by educators that questions play an important role in the teaching and learning process. The art of questioning is probably the most ancient pedagogical method of instruction. In fact, the dialogues of Socrates and the dialection of Plato have been considered the epitome of intellectual discourse, and has been used through out history as a model for all teachers, or would be teachers. Aschner (1961) elaborates upon this by labelling the teacher as "a professional question maker," and hypothesizes that the asking of questions is "one of the basic ways by which the teacher stimulates student thinking and learning."

During instruction teachers ask many questions during an average school day. A half-century ago, Stevens (1912) estimated that four-fifths of school time was spent in question and answer recitations. Stevens found that a sample of high school teachers asked a mean number of 395 questions per day. Floyd (1960), Moyer (1965), and Schreiber (1967), also found a high frequency of question use by teachers at other levels.

QUESTIONING PRACTICES OF TEACHERS

The first research relevant to questioning strategy of the classroom teachers was reported by Stevens (1912). She found that, for a sample of high-school classes varying in grade level and subject area, two-thirds of the teachers' questions required direct recall of textual information. Haynes (1935) found that 77% of teachers' questions in sixth-grade history classes called for factual answers with only 17% requiring the students to think. Corey (1940)

classified 71% of the questions asked by high-school teachers as requiring factual responses, with 27% of the questions asked requiring the students to think.

Subsequent studies in recent years have indicated that teachers' questioning practices are essentially unchanged. Floyd (1960) classified the questions of a sample of 40 "best" teachers in elementary classrooms. Specific facts were called for in 42% of the questions, with about 20% of the questions requiring thoughtful responses. In three other studies conducted at the elementary-school level (Adams, 1964; Guszak, 1967; Schreiber, 1967), similar percentages of fact and thought questions were asked. Gallagher (1965) and Davis and Tinsley (1967) classified the questions asked by high-school level teachers of gifted students and by student teachers. Again, more than one-half of the questions asked by both groups were judged to test students' recall of facts.

EFFECT OF QUESTIONING TECHNIQUES ON STUDENT BEHAVIOR

Teachers' questioning strategies have little or no value unless they have a tangible impact upon student behavior. However, few researchers have explored the relationship between teachers' questions and student outcomes.

Hunkins (1967, 1968) research attempted to determine whether the variable of question type bears any relationship to student achievement. Two experimental groups of sixth-grade students worked daily for a month on sets of questions which were keyed to a social studies text. In one group the questions stressed knowledge; in the other, analysis and evaluation questions were stressed. Hunkins found that the analysis-evaluation group received significantly higher scores on a specially constructed post-training test than did students who answered questions that stressed knowledge. The analysis-evaluation group of students did not differ from the comparison group in achievement on subtests containing knowledge, comprehension, analysis, and synthesis questions; they scored significantly higher on the subtests containing application and evaluation questions.

CHANGING TEACHERS' QUESTIONING BEHAVIOR

Although questioning skills in teaching is a recognized attribute few programs have been devised to insure this competancy in teachers. More than 30 years ago, Houston (1938) developed an in-service education program for the purpose of changing teachers' questioning practices. Among the techniques Houston used to effect behavioral change were group conferences, stenographic reports of each teacher's lessons, self-analysis, and supervisory evaluation.

Studies conducted by Clegg, Farley, and Curran (1967), and replicated by Farley and Clegg (1969), have reported that given training in the knowledge and use of the Bloom taxonomy (or in a form as modified by Sanders) that teachers ask significantly more questions at higher cognitive levels than teachers who have not had such training.

Far West Laboratory for Educational Research and Development (Borg, Kelley, Langer, and Gall, 1970) have recently developed a program to help teachers achieve similar changes in their questioning behavior. Called a minicourse, it is a self-contained, in-service training package requiring about fifteen hours to complete. The minicourse relies on techniques such as modeling, self-feedback, and microteaching to effect behavior change.

Recent studies by Hunkins (1966, 1967, 1968), Cornish (1966), Davis and Hunkins (1966), Davis and Tinsley (1967), Eulie (1968) and Godbold (1970) stress that levels of questions can, and must, be increased in order to provoke thought within children and fulfill the goals of the "new" social studies for the elementary child.

PURPOSE

If the strategies of inquiry, problem-solving, discovery, etc., of the "new" social studies emphasize the use of questions for instructional purposes, then concerted programs must be developed and implemented in colleges and schools.

This research attempts to answer the following questions:

1 - What are the questioning practices of prospective elementary school teachers during oral discussions of social studies materials?

2 - Can an intensive program affect the questioning practices of prospective elementary school teachers during oral discussion of social studies material?

METHOD

Sample:

Participating in this study were thirty prospective elementary school teachers, ten from each of three sections, enrolled in a course entitled "Teaching Social Studies In The Elementary Grades" at Ohio University during the Spring term, 1971.

Group A, the experimental group, consisted of ten prospective elementary school teachers. Five of these Ss taught second graders, and five taught third graders.

Group B, the control group, consisted of twenty prospective elementary school teachers. Ten of these Ss taught second graders, and ten taught third graders.

Procedure:

Group A, the experimental group, participated in an intensive program based upon extensive guidance in the use of Bloom's Taxonomy. A collection of articles mentioned previously in this research was also available for their use.

Group B, the control group, was not afforded instruction for using Bloom's Taxonomy.

Both groups participated in the regular class work for the course. With neither group interacting with the other group.

Near the conclusion of the Spring term, 1971, each of the Ss taught a 30 minute social studies lesson to either second or third grade classes in the Laboratory School at Ohio University.

Collection of Data:

Each S was observed by the author and a research associate, for a thirty minute instructional period. The questions asked during instruction were recorded, tabulated and later percentages were calculated using the Clegg (1969) classification system. The Clegg system consists of six categories based upon Bloom's (1956) taxonomy and the formulations of Sanders (1966). These categories are identified as memory, interpretation, application, analysis, synthesis and evaluation. In addition, a seventh category was set-up to deal with non-cognitive, or procedural questions.

Statistical Treatment of Data:

Chi Square test of contingency was utilized to determine relationships between questioning practices and groups. Rejection level was set at .05.

RESULTS

Table I indicates that Ss in Group A, the experimental group, and Group B, the control group, utilize questions for instructional purposes in the following order:

1 - memory
2 - interpretation
3 - application
4 - analysis
5 - synthesis
6 - evaluation

Although the ranking of the frequency of utilizing instructional questions remains the same for both groups, the percentages differ. Of the 280 questions asked by Ss in Group A, 136, or 49%, emphasized recall of factual information, while 72 questions, or 26%, emphasized simple interpretation of those facts. Thus, 75% of those questions utilized for instructional purposes of Group A were of the lowest level of thought provocation.

TABLE I. QUESTIONING PRACTICES OF PROSPECTIVE ELEMENTARY SCHOOL SOCIAL STUDIES TEACHERS FOR A 30 MINUTE INSTRUCTIONAL PERIOD

Type of question	Group A Average	Group A Total	Group A %	Group B Average	Group B Total	Group B %
Memory	14	136	49	17	332	54
interpretation	7	72	26	9	168	27
analysis	2	20	7	2	28	5
application	3	32	11	2	47	8
synthesis	1	14	5	1	29	5
evaluation	1	6	2	1	14	2
Total	28	280	100	32	618	100

On the other hand, of the 618 questions put forth by Ss in Group B, 332 or 54% emphasized recall of factual material; whereas 168, or 27%, of the questions emphasized interpretation of these facts. Thus, 81% of the questions utilized for instructional purposes by Group B were of the lowest level of thought provocation.

Studies previously identified under the sub-title "Questioning Practices of Teachers" stressed that teachers spent two-thirds to four-fifths of instructional time in question-and-answer recitation. The research also emphasized that 60 per cent to 77 percent of the questions used for instructional purposes called for factual responses. The results reported in Table I indicates that the students of Group A and Group B of this study do not significantly differ from the general teacher population - Group A posed 75% of their instructional questions or elicit factual responses, while Group B posed 81%. It should also be noted that although both groups frequently used simple memory and interpretation questions for instructional purposes, Group A used 6% fewer less thought provoking questions than Group B.

Table I can also be used to answer question two of this research, namely "Can an intensive program affect the questioning practices of prospective elementary school teachers during oral discussion of social studies materials?"

At first glance at Table I the answer to question 2 seems to be emphatically no. Statistically this is the case. However, percentage-wise the Ss in Group A used more questions of application, and analysis, the same amount of synthesis and evaluation questions, and fewer memory and interpretation type questions than students of Group B.

The results of this research, although they do not confirm, tend to agree with Hunkins (1966, 1967, 1968), Cornish (1966), Davis and Hunkins (1966), Davis and Tinsley (1967), Eulie (1968), and Godbold (1970) when they stress that this level questions utilized for instructional purposes, can, and must, be increased in order to provoke thought within children and fulfill the goals espoused by the "new" social studies.

CONCLUSIONS

Results of this research tend to reveal that:

1 - The questioning practices of prospective elementary school social studies teachers do not differ from those practices of classroom teachers. Namely, the prospective students also tend to ask questions that deal with limited thought provocation of child and fewer questions that enlarge, or enhance, thought provocation in children.

2 - There is a slight indication that the questioning practices of prospective elementary school social studies teachers can be changed over a period of time by an intensive study in the use of Clegg system of classification.

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